CLAIM Amendments

1. (Previously Presented) A process for identifying inhibitors of a eukaryotic potassium channel, in which

a) a mutated *S. cerevisiae* cell is used which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1;

b) a eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) the mutated *S. cerevisiae* cell is incubated together with a substance to be tested; and

d) the effect of the substance to be tested on the eukaryotic potassium channel is determined,

wherein a decrease in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an inhibitor of the eukaryotic potassium channel.

2. (Currently Amended) The process as claimed in claim 1, wherein the genes TRK1, TRK2 and [[TOM]] TOK1 are switched off in the mutated *S. cerevisiae* cell ~~(Otrk1, Atrk2, Atok1)~~ (Δtrk1, Δtrk2, Δtok1).

3. (Previously Presented) The process as claimed in claim 1, wherein the eukaryotic potassium channel is a human potassium channel.

4. (Previously Presented) The process as claimed in claim 1, wherein the eukaryotic potassium channel is HERG1, Kv1.5 or gpIRK1.

5. (Previously Presented) The process as claimed in claim 4, wherein the eukaryotic potassium channel is mutated.

6. (Currently Amended) The process as claimed in claim [[5]] 2, wherein the eukaryotic potassium channel is present in a yeast expression plasmid.

7. (Currently Amended) The process as claimed in claim [[6]] 2, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

8. (Currently Amended) The process as claimed in claim 7, wherein [[a]] the substance to be tested, which has an effect on the eukaryotic potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

9. (Currently Amended) The process as claimed in claim 7, wherein the effect of [[a]] the substance to be tested on the eukaryotic potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

10. (Currently Amended) The process as claimed in claim 9, wherein the cell count is determined via the fluorescence of luminescence of [[a]] the constitutively expressed growth reporter.

11-19. (Canceled).

20. (Previously Presented) A process of identifying activators of a eukaryotic potassium channel, in which

a) a mutated *S. cerevisiae* cell is used which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1;

b) a eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) the mutated *S. cerevisiae* cell is incubated together with a substance to be tested; and

d) the effect of the substance to be tested on the eukaryotic potassium channel is determined, wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

21. (Previously Presented) A process of identifying activators of a eukaryotic potassium channel, in which

a) a mutated *S. cerevisiae* cell is used which does not express the three endogenous potassium channels TRK1, TRK2 and TOK1;

b) a eukaryotic potassium channel is expressed heterologously in this mutated *S. cerevisiae* cell;

c) the mutated *S. cerevisiae* cell is incubated together with a substance to be tested in the presence of an inhibitor of the eukaryotic potassium channel; and

d) the effect of the substance to be tested on the eukaryotic potassium channel is determined wherein an increase in the transport of potassium across the eukaryotic potassium channel indicates that the substance is an activator of the eukaryotic potassium channel.

22-24. (Canceled).

25. (Previously Presented) The process as claimed in claim 3, wherein the enkaryotic potassium channel is a Kir2.1 or IRK1.